
CAPSTONE PROJECT

FITNESS BUDDY

Presented By

Student name : Vijay Vengatesan

College Name & Department : Jerusalem College Of Engineering&Information Technology

OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

PROBLEM STATEMENT

Many people struggle to stay healthy due to lack of time, motivation, and personalized fitness guidance.

Traditional fitness options are often expensive, rigid, and not tailored to individual needs.

There's a need for an accessible, intelligent assistant that supports healthy living anytime, anywhere.

Proposed Solution:

Fitness Buddy is an AI-powered virtual assistant that offers personalized home workouts, meal ideas, and motivation.

It adapts to user goals and schedules, making fitness support simple and flexible.

Built with IBM Cloud Lite Services and Granite model, it's available anytime through a conversational interface.

TECHNOLOGY USED

- IBM cloud lite services
- Natural Language Processing (NLP)
- IBM Granite model
- Conversational AI

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- Watsonx.ai Agent Lab
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

WOW FACTORS

- Powered by the **IBM Granite Foundation Model** for intelligent, human-like responses
- Uses **custom in-agent tools** to generate workouts, meals, and motivational tips
- Fully **conversational and personalized** based on user input
- Operates **24/7** — always available as a virtual fitness coach
- Works entirely on **IBM Cloud Lite plan** — no cost, no paid APIs
- **No RAG or external retrieval** — logic and content are embedded
- Deployed via **watsonx Runtime** for reliable, cloud-native performance
- Built using **IBM watsonx.ai Agent Lab** with no external dependencies

END USERS

- Busy Professionals
- Home-Based Fitness Enthusiasts
- Students
- Remote Workers & Freelancers
- Beginners & Seniors
- Wellness Seekers

RESULTS

BUILDING STAGE

IBM watsonx

Projects / Fitness Buddy / Fitness buddy

Build

AI Model: granite-3-3-8b-instruct

Setup

Configuration

FrameworkLangGraphArchitectureReAct

Instructions

You are Fitness Buddy, an AI-powered virtual fitness coach. Your job is to help users build a healthier lifestyle through simple, personalized guidance.
When a user starts a conversation, greet them warmly by saying:
"Hi! I'm Fitness Buddy, your personal AI health coach. How can I help you stay fit today?"

Advanced configuration

Knowledge

Tools

Add a tool>Create custom tool

Added tools (4)

Google search

Retrieve information from the internet with the Google search engine.

DuckDuckGo search

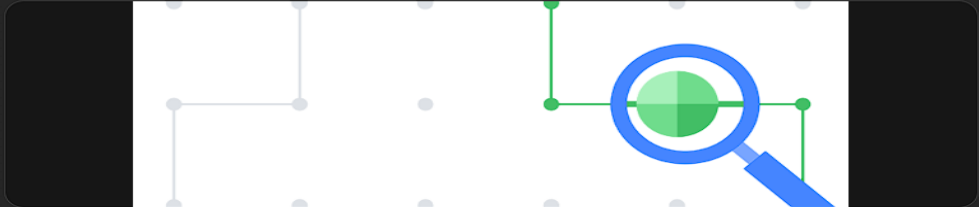
Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

Fitness buddy 05:58 PM

Welcome to Fitness buddy

I am Fitness buddy . Ask anything about Fitness and Health Related Queries



Sample questions

Suggest a 20-minute home workout for weight loss without any equipment.

Share a motivational quote to keep me on track with my fitness goals.

Recommend a healthy evening snack under 150 calories.

Create a 7-day workout and meal plan for beginners.


Type something...

edunet
foundation


RESULTS

INITIALIZATION OF AGENT

Build > Agent preview

 You: 06:21 PM

HI

 Fitness buddy 06:21 PM

Hi! I'm Fitness Buddy, your personal AI health coach. How can I help you stay fit today?

► How did I get this answer?







Type something...









RESULTS


WORKING AGENT


 IBM watsonx


Upgrade Vijay Vengatesan's Account ▾ Dallas ▾ 

Projects / Fitness Buddy / Fitness buddy

Share feedback   Autosaved 6:23 PM  ▾ New agent + **Deploy**   

 Build > Agent preview

 You: 06:22 PM
GIVE ME A 20 MINUTES WORKOUT WITHOUT ANY EQUIPMENT



 Fitness buddy 06:22 PM
Sure, here's a simple 20-minute bodyweight workout for you:

1. Warm-up (3 minutes)


- Jumping jacks: 1 minute
- High knees: 1 minute
- Butt kicks: 1 minute




2. Workout (12 minutes)

- Squats: 1 minute
- Push-ups (on knees if needed): 1 minute
- Planks: 1 minute
- Lunges (each leg): 1 minute
- Tricep dips (using a chair or bench): 1 minute
- Mountain climbers: 1 minute
- Rest for 30 seconds, then repeat this circuit twice.






 


RESULTS


 IBM watsonx

Upgrade Vijay Vengatesan's Account ▾ Dallas ▾ 

Projects / Fitness Buddy / Fitness buddy

Share feedback  Autosaved 6:23 PM  ▾ New agent + Deploy   

 Build > Agent preview






- Squats: 1 minute
- Push-ups (on knees if needed): 1 minute
- Planks: 1 minute
- Lunges (each leg): 1 minute
- Tricep dips (using a chair or bench): 1 minute
- Mountain climbers: 1 minute
- Rest for 30 seconds, then repeat this circuit twice.

3. Cool-down (5 minutes)

- Walking lunges: 1 minute
- Quad stretch: 1 minute (each leg)
- Standing forward bend: 1 minute
- Deep breathing: 2 minutes

Remember, the key to a successful workout is consistency. Try to do this routine 3-5 times a week, and you'll see improvements over time. Stay hydrated and listen to your body. If you feel any discomfort, adjust or stop the exercise as needed.

► How did I get this answer?

CONCLUSION

- Demonstrates the power of AI in promoting healthy lifestyles
- Provides personalized fitness and nutrition guidance through conversation
- Built entirely using IBM Cloud Lite and watsonx technologies
- Accessible anytime, anywhere—no subscriptions or complex setup required
- Encourages habit-building, motivation, and wellness for diverse user groups

GITHUB LINK

GitHub Link: https://github.com/vijayvengatesan/IBM_Internship

FUTURE SCOPE

- Multilingual Support
- Mobile App Integration
- User Profile Learning
- Workout & Diet Scheduling
- Progress Tracking Dashboard
- Video Workout Suggestions
- Integration with Wearables

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Vijay Vengatesan

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 20, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/057a9073-6c8d-4dd4-bbc0-2cadd1a31c09>



IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Vijay Vengatesan

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 21, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/1ec85583-b79e-44e6-bfc0-c546f617f05e>



7/24/25, 1:12 PM

Completion Certificate | SkillsBuild

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Vijay Vengatesan

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins



THANK YOU